

Listing of Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

CLAIMS:

1. (Currently Amended) A composition for forming a coating upon a substrate when applied and cured thereon, said composition comprising:

- (a) an epoxy-functional silane;
- (b) a multipodal silane;
- (c) a strong acid; and
- (d) a solvent;
- (e) wherein said epoxy-functional silane is present in a molar ratio to said multipodal silane that ranges from between 0.3:1 to 0.7:1.

2. (Original) The composition of Claim 1 wherein said solvent is selected from the group consisting of an aqueous solvent, an organic solvent, and a non-polar liquid.

3. (Original) The composition of Claim 2 wherein said organic solvent is selected from the group consisting of an alcohol, an ether, a cyclic ether, and a ketone.

4. (Cancelled)

5. (Cancelled)

6. (Original) The composition of Claim 1 wherein said strong acid is present in a molar ratio to said epoxy-functional silane that ranges from between 0.01:1 to 0.5:1.

7. (Currently Amended) The composition of ~~Claim 4~~ Claim 1 wherein said molar ratio of said strong acid to said epoxy-functional silane is from between 0.02:1 to 0.15:1.

8. (Original) The composition of Claim 1 wherein said strong acid is selected from the group consisting of phosphoric acid, phosphorous acid, sulfuric acid, sulfurous acid, nitric acid, nitrous acid, and alkyl and aryl sulfonic and di-sulfonic acids.

9. (Cancelled)

10. (Currently Amended) ~~The composition of Claim 9 wherein said~~ A composition for forming a coating upon a substrate when applied and cured thereon, said composition comprising:

(a) an epoxy-functional silane;
(b) a multipodal silane;
(c) a strong acid;
(d) a solvent; and
(e) a condensation catalyst is selected from the group consisting of an amine condensation catalyst and an amide condensation catalyst.

11. (Original) The composition of Claim 1 wherein said composition further comprises at least one silane additive.

12. (Original) The composition of Claim 1 wherein said composition further comprises at least one organic functional additive.

13. (Original) The composition of Claim 1 wherein said composition further comprises colloidal silica.

14. (Original) The composition of Claim 13 wherein said colloidal silica includes particulate silica having an average diameter no greater than 75 nanometers.

15. (Original) The composition of Claim 14 wherein said average diameter of said particulate silica is no greater than 50 nanometers.

16. (Original) The composition of Claim 1 wherein said composition further comprises a metal oxide composite colloid material.

17. (Original) The composition of Claim 1 wherein said composition further comprises at least one surfactant.

18. (Currently Amended) ~~The composition of Claim 1 wherein said composition further comprises~~ A composition for forming a coating upon a substrate when applied and cured thereon, said composition comprising:

(a) an epoxy-functional silane;
(b) a multipodal silane;
(c) a strong acid;

(d) a solvent; and

(e) a photoinitiator.

19. (Currently Amended) A method of forming a coating upon a substrate, said method comprising the steps:

(a) providing a coating composition, said composition comprising an epoxy-functional silane, a multipodal silane, a strong acid, a silane additive having an organic polymerizable functional group and a solvent;

(b) applying said composition in step (a) to said substrate; ~~and~~

(c) polymerizing the organic portion of said coating composition; and

(d) curing said composition applied to said substrate in step (b).

20-25 (Cancelled)

26. (Original) The method of Claim 19 wherein in step (a), said composition further comprises a photoinitiator additive.

27. (Cancelled)

28. (Original) The method of Claim 19 wherein in step (b), said substrate comprises a lens surface.

29. (Original) The method of Claim 19 wherein prior to step (b), a primer is applied to said substrate.

30. (Original) The method of Claim 19 wherein in step (b), said composition is applied via a procedure selected from the group consisting of dip, spin, flow, spray, and roll coating.

31. (Currently Amended) The method of Claim 19 wherein in ~~step (e)~~ step (d), such composition is cured by a curing technique selected from the group consisting of thermal curing, UV curing, and electron beam curing.

32-34 (Cancelled)

35. (New) A method of forming a coating upon a substrate, said method comprising the steps:

(a) providing a coating composition, said composition comprising an epoxy-functional silane, a multipodal silane, a strong acid, an organic additive having a polymerizable functional group and a solvent;

- (b) applying said composition in step (a) to said substrate;
- (c) polymerizing the organic portion of said coating composition; and
- (d) curing said composition applied to said substrate in step (b).

36. (New) The method of Claim 35 wherein in step (a), said composition further comprises a photoinitiator additive.

37. (New) The method of Claim 35 wherein said substrate comprises a lens surface.

38. (New) The method of Claim 35 wherein prior to step (b), a primer is applied to said substrate.

39. (New) The method of Claim 35 wherein in step (b), said composition is applied via a procedure selected from the group consisting of dip, spin, flow, spray, and roll coating.

40. (New) The method of Claim 35 wherein in step (d), such composition is cured by a curing technique selected from the group consisting of thermal curing, UV curing, and electron beam curing.

41. (New) The composition of Claim 10 wherein said solvent is selected from the group consisting of an aqueous solvent, an organic solvent, and a non-polar liquid.

42. (New) The composition of Claim 41 wherein said organic solvent is selected from the group consisting of an alcohol, an ether, a cyclic ether, and a ketone.

43. (New) The composition of Claim 10 wherein said strong acid is present in a molar ratio to said epoxy-functional silane that ranges from between 0.01:1 to 0.5:1.

44. (New) The composition of Claim 10 wherein said molar ratio of said strong acid to said epoxy-functional silane is from between 0.02:1 to 0.15:1.

45. (New) The composition of Claim 10 wherein said strong acid is selected from the group consisting of phosphoric acid, phosphorous acid, sulfuric acid, sulfurous acid, nitric acid, nitrous acid, and alkyl and aryl sulfonic and di-sulfonic acids.

46. (New) The composition of Claim 10 wherein said composition further comprises at least one silane additive.

47. (New) The composition of Claim 10 wherein said composition further comprises at least one organic functional additive.

48. (New) The composition of Claim 10 wherein said composition further comprises colloidal silica.

49. (New) The composition of Claim 48 wherein said colloidal silica includes particulate silica having an average diameter no greater than 75 nanometers.

50. (New) The composition of Claim 49 wherein said average diameter of said particulate silica is no greater than 50 nanometers.

51. (New) The composition of Claim 10 wherein said composition further comprises a metal oxide composite colloid material.

52. (New) The composition of Claim 10 wherein said composition further comprises at least one surfactant.

53. (New) The composition of Claim 18 wherein said solvent is selected from the group consisting of an aqueous solvent, an organic solvent, and a non-polar liquid.

54. (New) The composition of Claim 53 wherein said organic solvent is selected from the group consisting of an alcohol, an ether, a cyclic ether, and a ketone.

55. (New) The composition of Claim 18 wherein said strong acid is present in a molar ratio to said epoxy-functional silane that ranges from between 0.01:1 to 0.5:1.

56. (New) The composition of Claim 18 wherein said molar ratio of said strong acid to said epoxy-functional silane is from between 0.02:1 to 0.15:1.

57. (New) The composition of Claim 18 wherein said strong acid is selected from the group consisting of phosphoric acid, phosphorous acid, sulfuric acid, sulfurous acid, nitric acid, nitrous acid, and alkyl and aryl sulfonic and di-sulfonic acids.

58. (New) The composition of Claim 18 wherein said composition further comprises at least one silane additive.

59. (New) The composition of Claim 18 wherein said composition further comprises at least one organic functional additive.

60. (New) The composition of Claim 18 wherein said composition further comprises colloidal silica.

61. (New) The composition of Claim 60 wherein said colloidal silica includes particulate silica having an average diameter no greater than 75 nanometers.

62. (New) The composition of Claim 61 wherein said average diameter of said particulate silica is no greater than 50 nanometers.

63. (New) The composition of Claim 18 wherein said composition further comprises a metal oxide composite colloid material.

64. (New) The composition of Claim 18 wherein said composition further comprises at least one surfactant.